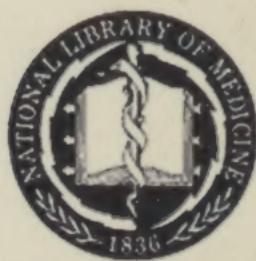




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REMARKS

# ARTIFICIAL TEETH

AND ON THE MEANS OF  
THEIR HOLDING WHICH THEY SHOULD  
AND SHOULD NOT BE MADE.

## REMARKS

# ARTIFICIAL TEETH



BY JAMES DODD,  
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REMARKS  
UPON  
ARTIFICIAL TEETH

AND UPON THE STATES OF  
THE MOUTH IN WHICH THEY SHOULD  
AND SHOULD NOT BE USED

WITH A DESCRIPTION OF THE MATERIAL BEST SUITED TO PARTICULAR CASES

AND

An Appendix

SHOWING THE SECONDARY DISEASES PRODUCED BY DECAYED TEETH

BY

SAMUEL ADAMS PARKER

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Member of the Odontological Society, &c. &c.



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1862

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ІДЕЯ ВІДНОСИТЬСЯ ДО ПІДІМНІХ  
ІДЕАЛІЗАЦІЙ

TO

JOHN TOMES, ESQ., F.R.S.

SURGEON-DENTIST TO THE MIDDLESEX HOSPITAL AND THE DENTAL  
HOSPITAL OF LONDON.

---

MY DEAR SIR,

You have permitted me to dedicate this little work to you; and to whom could I so properly offer this fruit of my labour as to one who holds the first place amongst British Dental Pathologists, and who has laboured so hard and so successfully to place Dentists in the rank they now occupy, and to give them a status and a position they did not before possess?

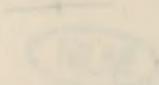
Believe me, with every sentiment of esteem and respect, to remain

Your obliged and faithful former Pupil,

SAMUEL ADAMS PARKER.

JOHN THOMAS, 1802, KELZ

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MAMMA'S BREAD, 1802

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## P R E F A C E.

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WHEN I consider the very rapid progress that has been made within the last few years, and, indeed, within the last few months, in the invention of materials of which artificial teeth are composed, and in the mode of their construction and adaptation, it seemed to me possible to glean out of the large field of valuable knowledge thus opened some few remarks for the especial benefit of those who are about to adopt the use of such appliances.

It has been my desire to put before my readers in a popular form, as many of the most important particulars relative to the art of mechanical dentistry as may best serve to guide them in their choice of the material most suitable to their own cases. It will be observed that I have directed particular atten-

tion to the proper preparation of the mouth previous to the insertion of artificial teeth.

My remarks will be found to bear mainly on the defects produced by the loss of the teeth and on the best means to be adopted in order to repair such loss, and it is hoped that the illustrations at the end will tend to throw some additional light upon the subject.

In the Appendix following the remarks upon artificial teeth, will be found considered one of the most important subjects in dental surgery, viz. the evil effects produced by retaining diseased teeth and stumps in the jaws.

The cases illustrating this portion of my work, have been carefully selected from upwards of 9,000 patients in Hospital, Dispensary, and private practice; and in order that the subject may be more fully illustrated, I have selected some few cases of interest from other valuable sources.

## CONTENTS.

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### CHAPTER I.

	PAGE
Defects arising from the Loss of the Teeth . . . . .	1
Reasons for inserting Artificial Teeth as soon as the Natural ones are lost . . . . .	4

### CHAPTER II.

Effects produced by the Loss of the Natural Teeth . . . . .	8
Treatment of the Mouth previous to inserting Artificial Teeth . . . . .	10

### CHAPTER III.

Materials employed in the Construction of Artificial Teeth . . . . .	20
Use and Abuse of Clasps round Sound Teeth for the Purpose of retaining Artificial Teeth in their Place . . . . .	23
The Application of a Single Tooth on a Gold Plate, its Fastenings, &c. . . . .	30
The Application of Four Teeth mounted on a Gold Plate, their Fastenings, &c. . . . .	32
The Application of several Teeth mounted on a Vul- canized Indiarubber Base, for restoring the general Contour of the Face and assisting Mastication . . . . .	33
The Application of Teeth for the purpose of Mastica- tion, their Fastenings, &c. . . . .	34

	PAGE
Artificial Teeth retained in the Mouth by Atmospheric Pressure . . . . .	36
Complete Sets of Artificial Teeth and their Fastenings . . . . .	39

## CHAPTER IV.

Vulcanized Indiarubber as a Material for the Base of Artificial Teeth . . . . .	40
Its Superiority over Bone and Ivory, &c. . . . .	42
Other Advantages to be obtained by using Vulcanized Indiarubber . . . . .	44
Advice to those wearing Artificial Teeth . . . . .	49
Advice to those about to adopt Artificial Teeth . . . . .	53
Concluding Remarks . . . . .	54
Explanation of Plates . . . . .	57
Plates . . . . .	<i>ib.</i>
Appendix, showing the Secondary Diseases produced by decayed Teeth . . . . .	58
Cases . . . . .	66

ON  
ARTIFICIAL TEETH.

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CHAPTER I.

DEFECTS ARISING FROM THE LOSS OF THE  
TEETH.

I INTEND in the following pages to direct the attention of my readers to a minute portion only of the wonderful mechanism by which life is supported, and upon the harmony or breaking up of whose constituent parts either healthy or morbid conditions of the body depend.

And yet, though these observations will apply to a very small portion only of the body, few will be bold enough to deny that this subject is not one of very great importance,

whether it be considered in reference either to personal appearance, personal comfort, or even to the health of the individual.

It is well known that the dental organs are given for the purpose of distinct articulation, of perfect mastication, as well as for the agreeable expression of the countenance. If the teeth be lost, either partly or wholly, the defects arising from such a misfortune soon make themselves painfully evident. For instance, in the loss of the front teeth articulation becomes difficult, and the face loses its distinctive character. By the loss of the back or molar teeth, the general health and strength become more or less affected; for the food, which is their allotted part to triturate and prepare for the stomach, is carried imperfectly masticated into that organ, and the function of digestion consequently becomes much impaired and weakened. If the machinery of the mouth, so to speak, loses its healthy play, it is impossible to foresee the inconveniences and disorder

which may result. And in proportion as the art of dentistry can furnish mechanical means to prevent these evils when impending, or to cure them when present, it is entitled to the serious attention of the patient.

It should be borne in mind that the permanent, or second set of teeth, are not like the temporary, or first set. They are intended to perform the part given to them during the whole period of life ; and here let me urge it upon those who are so happy as to possess a fine, healthy set of permanent teeth to adopt all prudent measures for their preservation in that state.

Mechanical contrivances may be, in some respects, no mean imitators of nature ; but in dentistry, as in other things, the former cannot be accepted as an all-sufficient substitute for the latter ; yet it is an indisputable fact that the dentist can fashion teeth capable of answering most purposes the bodily health may require. He has materials at hand which enable him to

## 4 REASONS FOR INSERTING ARTIFICIAL TEETH

take the model of the mouth so accurately, and to adapt his substitutes so faultlessly, that the patient may frequently forget he has artificial teeth in his mouth.

### REASONS FOR INSERTING ARTIFICIAL TEETH AS SOON AS THE NATURAL ONES ARE LOST.

I cannot too strongly insist on the absolute necessity of cleanliness as the one great preservative of teeth that are in a sound and healthy state. But when the least symptoms of decay present themselves in the teeth, let it be arrested without delay by stopping, or by the removal of the disease, or the tooth or teeth affected. In this latter case, so soon as the gums shall have closed, let the absent teeth be replaced by artificial ones. I have always deemed it successful practice to replace immediately the loss occasioned by the extraction of a natural tooth.

I am convinced there is everything in my favour when advocating such a procedure; for

when a tooth has been drawn, the teeth on the right and on the left of it have also lost their former support. It should be remembered, that in the dental organisation one tooth cannot act independently of its fellows, without risk to the perfect and healthy performance of its functions. Time finds out and weakens the teeth on either side of the one removed ; therefore it is the wisest plan to replace the lost tooth or teeth before any serious mischief takes place in those which are left.

Again the antagonising tooth or teeth become partially disabled, when its opposite tooth or teeth have been taken away ; for it must be borne in mind that the permanent teeth are so distributed that they close in the following manner ; — the central incisors of the upper jaw close over the same class of teeth in the lower jaw, and also one half of the adjoining teeth on either side, and so on through the whole set, so that when one tooth is gone, its fellow-worker has partially lost its occupation. The

## 6 REASONS FOR INSERTING ARTIFICIAL TEETH

parts external too, such as are the cheeks, fall in, and the countenance consequently acquires a false expression, and an appearance of age, and the greater the number of teeth lost, the more extensive and observable will be the defect created. The late Professor Harris, of the Baltimore College of Dental Surgery, noticed a peculiarity in the mouth which may not be generally known (in a popular sense), and thence he deduces the necessity of supplying the loss of teeth as soon as possible after it has occurred. He remarks : ‘the loss of a tooth in one jaw is generally followed by the gradual protrusion from its socket of the one with which it antagonised in the other ; so that if the loss of the former be replaced with a substitute of equal size, it will strike against the latter at each occlusion of the mouth, and prevent the other teeth from coming together. This tendency of the teeth in one jaw to protrude, is always in proportion to the number lost in the other ; and if not soon counteracted by the re-

placement of the latter with artificial substitutes, it often gives rise to an obstacle to their proper application, which will require no little ingenuity and tact to overcome.'

This may all be avoided if the teeth are replaced, as I have before stated, immediately they are lost.

## CHAPTER II.

EFFECTS PRODUCED BY THE LOSS OF THE  
NATURAL TEETH.

ONLY a brief glimpse at the process of digestion will serve to show the disorder caused in the general system by the absence of teeth, natural or artificial. It is true that the teeth are not the solvents of our food, but it is their function to fit it for the action of the gastric juice, by triturating and preparing it for the digestive process to work upon.

The food when conveyed into the stomach is reduced by the action of its juices into a pulta-ceous mass termed ‘ chyme.’ ‘ Substances taken as food, irrespective of their relative solubility,

are dissolved by the gastric fluid quickly or slowly in proportion to their degree of permeability or comminution, or, in other words, according to the surface exposed to the action of the solvent. So it happens that a solid morsel, swallowed whole, may remain in a healthy stomach many hours before it is dissolved; while had the same morsel been crushed or broken up into many pieces, and in that process mixed with the saliva, and then swallowed, it would have been reduced to pulp in an hour. In the one instance the function of digestion, so far as the production of chyme is concerned, is duly performed; in the other it is retarded. Hence it is of paramount importance that the food, before it is introduced into the stomach, should be properly crushed, divided, and thus rendered pervious to the gastric juice; in other words, perfect mastication is necessary to perfect digestion. To effect this purpose we are provided with a special apparatus with suitable crushers, — with teeth. To the dentist is

entrusted the care of these important organs, to keep them in repair, and to replace them when lost.\*

#### TREATMENT OF THE MOUTH PREVIOUS TO INSERTING ARTIFICIAL TEETH.

We not unfrequently meet with individuals who will suffer extreme agonies rather than knock at the dentist's door, for the cure which they would receive at the cost of an almost infinitesimal part of their previous pain. And when at last the alternative of tooth extraction has to be considered, the patient will meet his coming cure considerably more than half way, if instead of fancying all sorts of unreal miseries, he places himself in ordinarily skilful hands, when no doubt in nine cases out of ten his fears will prove to be the creations of an oversensitive mind. Not so with the applicant for artificial teeth; he enters the dentist's ope-

\* 'Tomes on Artificial Teeth, p. 12.

rating room with a light and easy mind, thinking nothing more has to be done than an impression taken of the mouth (an operation unattended with pain), when, in due time, he receives his artificial substitutes. The patient finds himself disappointed when told that his mouth is not in a fit state to receive the artificial teeth he asks for. His manner and conversation will frequently show that he has been led away by quack advertisements, such as it is scarcely credible any sober-minded person would believe. The dentist perceives that his patient, in this case, possesses a smaller or greater number of loose stumps; he examines the gums and finds them inflamed, and in a soft spongy condition. He is expected to place the clasps of the new teeth round those which are decayed and loose; and, as an honest practitioner, he avows at once his inability to perform impossibilities. Better far to say this than to deceive the patient, and to let him go on believing in the truth and

infallibility of the advertisements ; to take his fee, and send him home with teeth which can only plague and distress him.

I not only, however, complain of the absurd inducements held out by these advertisements, in the way I have already mentioned, but they tend greatly to injure the dental profession in another way. Through their agency a false impression gains ground that artificial teeth are useless, uncomfortable, and painful appendages. It will naturally be no easy matter for the scientific dentist to convince people who come to him full of the virtues of Mr. So-and-So's method of supplying artificial teeth, that their common sense has been tampered with. Let there be never so many loose stumps and decayed teeth, let the gums be never so much inflamed, and the breath, as a natural consequence of all this, very offensive, they will, in too many cases, adhere obstinately to their first hallucination. The breath is to be rendered pleasant, disease in the gums and in

the jaws to be arrested, say rather buried, under the smart-looking artificial teeth they covet so much. Some will perchance have their own way, and return home from the empiric to eat their food with ever renewed irritability, to unhappy days, and restless nights; all of which might have been avoided had they only learned in time that, whatever quack advertisements may assert to the contrary, impossibilities cannot be performed. Let the opinion of the late Dr. Koecker give its due weight to the preceding remarks. ‘There is, perhaps,’ he says, ‘not one case in a hundred requiring artificial teeth, in which the other teeth are not more or less diseased, and the gums and alveoli also either primarily or secondarily affected. The mechanical and chemical bearing of artificial teeth upon such diseased structures naturally becomes an additional powerful aggravating cause of disease, already in a sufficient state of excitement, even if the teeth are mechanically well constructed and inserted; if, however, they are not well

constructed, and are inserted with undue means or force, or held by too great or undue pressure, or by ligatures or other pernicious means for their attachment, the morbid effects are still more aggravated, and a general state of inflammation in the gums and sockets, and particularly in the periosteum, very rapidly follows. The patient, moreover, finds it impossible to preserve the cleanliness of his mouth; and his natural teeth, as well as the artificial apparatus, in combination with the disease of the structures, becomes a source of pain and trouble, and the whole mouth is rendered highly offensive and disgusting to the patient himself as well as to others.\*

These facts are brought forward as witnesses against chicanery in artificial dentistry, which the most special pleading cannot controvert; and it must be obvious to every candid judgment, that the state of the mouth demands

\* *Essay on Artificial Teeth*, pp. 27, 28.

most serious attention, if the dentist cares to confer comfort and assistance upon his patients and to reflect credit upon himself.

Anything calculated to irritate and inflame the gums should be removed ; and under the head of substances most injurious to these, will come dead and loose teeth, stumps, and salivary calculus, or tartar. Many eminent and experienced men have long debated amongst themselves as to the immediate cause of the last named substance ; but, various as are the conclusions arrived at by them, all must be agreed that tartar plays a very prominent part in keeping up a diseased condition of the mouth, and he is a wise man who makes it a point of importance that the healthy preparation of his mouth should be attended to, though, as is sometimes the case, he may be obliged to wait several weeks or even months before the artificial teeth can safely or pleasantly be inserted. As a general matter of experience, however, not a little persuasion on the part of the

practitioner is necessary to induce patients to submit to an operation unjustly dreaded at this stage.

‘ It may be stated, as a general rule of practice, that all the remaining natural teeth that are not susceptible of being restored to a state of comparative health and usefulness, should be removed before inserting an artificial substitute; especially should this course be pursued whenever the remaining roots are found partially or wholly necrosed, and the peridental membranes and surrounding tissues inflamed and suppurating. Such should be extracted, if for no other reason than that they are offensive in the mouth, and tend, in a greater or less degree, to compromise the general health. An additional reason why they should be extracted, is, that their presence prevents, in some degree, an accurate and uniform adaptation of the mechanical appliance to all the parts on which it is designed to rest, and this is particularly true of those cases where atmospheric pressure is made

available in the retention of the substitute.\* When the dentist has concluded his examination of the patient's mouth and has determined what teeth or stumps ought to come out, this most necessary preliminary to the insertion of artificial dentures should be accomplished if possible at one sitting. The parts will then absorb uniformly, and the desired substitutes may be inserted at a much earlier date than if several sittings had previously been taken.

Occasions will, however, arise, in which the condition of the patient's health will not admit of the removal of more than one tooth or stump at a time, and such cases the experienced practitioner will not be slow to discover.

Let me here guard my readers against misconception of the foregoing remarks. Let them not suppose that I am advocating the removal of sound healthy stumps, such as cause no irritation. It is desirable that such should be retained, unless some circumstance should arise

\* Mechanical Dentistry: J. Richardson, pp. 112, 114.

upon examination which may render their removal necessary.

If, for instance, the shut of the mouth be rendered very close, gum almost touching gum, by the presence of stumps, they should be removed, and the new teeth would then receive a much greater depth.

Salivary calculus deposited round the necks of the teeth should be carefully removed. If the teeth are encumbered to a great extent with this earthy matter (which is not unfrequently the case) the patient should be recommended to give more than one sitting for its removal, since it would be highly injudicious practice to expose the necks of the teeth to a sudden change of temperature. Sometimes, too, tartar will have accumulated in a quantity so large that the gums, the alveolar process, and the surrounding tissues, are involved in the mischief, and under such circumstances great skill and judgment must be called into play for the restoration of the affected parts to health.

If the operation of tooth-extraction is to be extended over the space of two or three sittings, the mouth should in the mean time be kept scrupulously clean, and an astringent lotion composed of tincture of myrrh and compound infusion of roses, or some other such suitable gargle, may be used with much advantage. When the parts have regained their healthy condition, when the gums have become firm, and the surrounding teeth are rendered sound, the model of the mouth may be taken in the usual way, and the substitute proceeded with.

## CHAPTER III.

MATERIALS EMPLOYED IN THE CONSTRUCTION OF  
ARTIFICIAL TEETH.

WE now arrive at the inquiry as to the best and most suitable material to be used in the construction of artificial dentures. These, as may be supposed, are various : gold, silver, platina, dental alloy, rubber, &c., are some of the substances most frequently used as a basis for new teeth ; but as I rarely use in my own practice any other material than gold and vulcanized indiarubber, I may be allowed to confine my remarks exclusively to them.

It is highly important that in the construction of a gold substitute, the plate selected should be one of a suitable thickness, so that it may bear the various manipulations necessary for its con-

struction and adaptation without bending, and may give a firm basis for the teeth. It ought never to be less than 18 carats in quality. When clasps are used for the purpose of retaining the substitute in the mouth, the standard should be somewhat lower (say perhaps 16 carats), because it is requisite they should possess a certain degree of elasticity about them, so that they may be made to fit the more firmly and comfortably in the mouth. It would be out of place here to enter upon the consideration of many of the details in the construction of the artificial dentures, nor, indeed, would it be necessary, since any remarks on these points could only be useful in class-books, but a few practical observations, as to their general purpose and adaptation, may be found useful. The great objects to be gained by those who are about to adopt the use of false teeth, are non-detection, perfect articulation, and comfort and assistance in masticating their food. These points can only be properly carried out by the practitioner who has a thorough

practical acquaintance with all the details connected with mechanical dentistry. When a selection has been made as to the material of which the basis for the teeth shall be composed, very particular care is required with a view to its exactly even position on the gums: continual pain and discomfort will be the result if this point is not strictly adhered to. It must be recollect that from this basis or foundation the crowns of the false teeth are made to rise. Mr. Tomes has some very useful remarks on this point; he says: ‘The base is an essential part of all artificial teeth, whether they be few or many; and upon the accuracy with which this fits the gums, will the usefulness of the imposed teeth depend. Indeed, unless it fits tolerably, the teeth cannot be worn, and for this obvious reason, that the pressure of mastication will be communicated to those parts only of the gums on which the base bears. If the area of these be small, the parts will be bruised; if they be still smaller, they will be cut. The greater the

area over which the pressure is diffused, the less will it be felt, the smaller the more. We all know what would be the consequence if the area were reduced to an edge or a point; yet there are not wanting instances where, from inattention to these simple facts, the bases of false teeth are so badly constructed that the gums are bruised or cut the first time they are worn, and this from the ill-fitting or insufficient size of the base.\*

#### USE AND ABUSE OF CLASPS ROUND SOUND TEETH FOR THE PURPOSE OF RETAINING ARTIFICIAL TEETH IN THEIR PLACE.

When the plate has been struck up, it should be carried as far back as the case will permit, and should be made to fit closely to the necks of the teeth inside, for be it remembered that the more closely the plate is fitted to the palate, the less is the requirement for clasps to retain

\* Tomes's Use and Management of Artificial Teeth, p. 18.

it in position. It has been observed that ‘the method of applying artificial teeth with clasps is, with perhaps the single exception of placing them on natural roots, the best that can be adopted.’\* I am inclined to think the former, when the various manipulations are well carried out, the more valuable of the two processes : it is one capable of more general application ; and it is truly added by the author just quoted, ‘that a plate may be so fitted to an aperture in the dental circle, and secured with clasps to the other teeth, as to afford a firm support to six, eight, ten, or even twelve artificial teeth.’ And yet it should be observed that clasps or any other fastenings round the teeth ought to be fitted with unerring accuracy, and the majority of writers on Dental Mechanics recommend that extra models of the teeth round which the clasps are to be fastened, should be taken. Such a proceeding, however, is only necessary in some few cases.

\* Harris’s Principles and Practice of Dental Surgery, p. 594.

Sound teeth are being constantly sacrificed by the careless and injudicious adjustment of clasps. The injury done to the teeth round which they are placed does not proceed from the constant friction of the two substances against each other, but from the fact that they are often so inaccurately fitted, that all kinds of extraneous matter habitually collect between the clasp and tooth, which, in the course of time, becomes putrid, and acrid. Hence arises decomposition of the enamel, and ultimately the total destruction of the tooth supervenes.

'The most usual seat of decay in these cases is at the neck of the tooth, where the enamel is thinnest, and it is sometimes limited to a circumscribed spot, but often extends on a line with the gum involving nearly or quite all of that part of the neck of the tooth embraced by the clasp. At first the enamel becomes bleached and softened as though macerated, and is ordinarily very sensitive to both chemical and mechanical irritants. With a continuance of the cause, the

superficial portions of the affected parts become more and more thoroughly disintegrated, and sooner or later assume the open form and characteristics of ordinary decay. If, as was formerly supposed, decay or solution of tooth bone in these cases resulted from mechanical attrition, or wearing away of the enamel, the injury would be inflicted at points distant from the neck of the tooth, where the clasp lies in more direct and immediate contact with the protuberant portions of the crown; but we find that decay, from this cause, is not only of unfrequent occurrence at such points, but that, on the contrary, the enamel is frequently found condensed and polished by the mechanical action of the clasp.\*

But one more quotation upon this valuable point in mechanical dentistry, before passing on to another portion of our subject. ‘The effects resulting from the presence of corrosive

\* Richardson’s Mechanical Dentistry, p. 200.

agents are not the only deleterious ones liable to be produced by clasps. They are often fitted and applied in such a manner as to force themselves up upon the necks of the teeth and gums, causing inflammation of the latter, as well as that of the alveolo-dental membranes, and, ultimately, the destruction of the alveoli and loss of the teeth. Hence the necessity of guarding against such effect, by a proper adjustment of the clasps in the construction of the piece.'\*

The chemical history of a tooth shows its natural predisposition to suffer decay from contact with any one of the irritating causes just mentioned.

To the eye of the inexperienced observer the tooth presents an appearance of solid density which is disproved by minute examination. It has indeed a superficial coating of enamel, and this is one of the hardest substances known,

\* Harris, p. 687.

and it is a substance that retains its healthy aspect much longer in some mouths than in others; but underneath the enamel is the body of the tooth, made up of a substance known as dentine, and it possesses peculiarities that only show themselves with more or less distinctness when assisted by the aid of the microscope. When seen by the aid of this instrument, it is composed of numerous delicate tubes, branching from the pulp cavity to the border. It is supposed that a minute nerve fibre passes through each tube; and from the fact of many teeth being remarkably sensitive and even painful long before the proper nerve cavity is exposed, I am rather inclined to lean towards the theory advocated. These tubes have each parietes or walls of a suitable thickness, and some idea may be formed as to the unspeakable skill manifested in the construction of these tubes, when it is stated that 'measured by the micrometer, the internal diameter of the largest tube is about the  $\frac{1}{10000}$  of an inch, and the dia-

meter, including the parietes,  $\frac{3}{10000}$  of an inch.\*

As a proof of the danger of allowing fluids to remain an unnecessary length of time in the mouth, particularly those of an acid nature, if any one will place a section of dentine under the microscope, in a few drops of water, the instrument's magnifying power will presently show him the little globules passing into the tubes that traverse the body of the tooth. Hence we may understand with what ease draughts of cold air find their way into these little passages, and cause great pain to the parts so exposed.

A tooth is found upon analysing it to be composed of phosphate, fluate, carbonate of lime, phosphate of magnesia, salts, cartilage, and fat, and hence it may be seen that these substances cannot long bear the contact with matter prejudicial to their continuance and cohesion in a sound, healthy condition, without

\* Tomes's Dental Physiology and Surgery, p. 39.

giving way, or causing offensive odours in the mouth. But to continue the subject of selecting teeth to which clasps ought to be attached; — they should be selected according to their position, shape, and condition, and, above all things, loose or decayed teeth, if any have been allowed to remain in the mouth, should be free from any irritation of clasp or plate.

The molar and bicuspid teeth, when circumstances permit, are the most useful for the attachment of clasps. They should be sound, firmly imbedded in the socket, and the surrounding gum and parts healthy. The clasps should be carried no farther than just to the margin of the gum, lest inflammation should ensue.

#### THE APPLICATION OF A SINGLE TOOTH ON A GOLD PLATE: ITS FASTENINGS, ETC.

It is necessary when one tooth only has to be inserted (as, for instance, one of the central in-

cisors), (see Plate 1, Figs. 1 and 2), that two teeth, on whichever side may be most suitable, should be separated in order to admit the passage of the clasp, and as I have before stated, the bicuspids may be selected with much advantage.

This is an operation that requires the utmost care and judgment, and one, be it observed, that should not under any circumstances be resorted to unless absolute need exists for it.

It must be understood that I am now alluding to cases in which all the teeth are in the jaws, minus one of the incisors, and that no other way of inserting it without detection can be resorted to except by filing.

Where, however, this process is resorted to, and cannot be avoided, the importance of keeping the inside of the clasp clean ought to be strongly impressed upon the mind of the patient. And after the separation has been made, the sides of each tooth should be carefully burnished, to prevent the lodgment

of even fluids, for reasons only lately adverted to.

THE APPLICATION OF FOUR TEETH MOUNTED ON  
A GOLD PLATE : THEIR FASTENINGS, ETC.

The same method of attachment may be adopted in most cases with reference to the four front teeth. If, however, the teeth to be replaced are divided by natural teeth from each other, a somewhat different process will be required as regards the application of the clasps. If, for instance, two front and one or two back teeth require replacing (the remaining teeth being perfectly healthy, and an accurate model of the mouth having been obtained), the plate may be struck up in the usual way, and will require nothing more than the adjustment of the clasps. In this case reference to Plate 2, Figs. 1 and 2, will show that the clasps are fastened round the first molar on the one side, and the first bicus-

pid on the other, by which means the piece is held firmly in its place ; the teeth may then be adjusted to the bite, and the piece finished in the ordinary way.

THE APPLICATION OF SEVERAL TEETH MOUNTED  
ON A VULCANIZED INDIARUBBER BASE, FOR RE-  
STORING THE GENERAL CONTOUR OF THE FACE,  
AND ASSISTING MASTICATION.

The next modification represents a case supplied with artificial teeth, for the purposes of mastication, and of restoring symmetry to the appearance of the mouth. This piece referred to in Plate 3, Figs. 1 and 2, was made in vulcanized indiarubber, of which special notice will be taken in due course. The patient, when speaking or laughing, gave considerable prominence to the front teeth, and to obviate detection in this instance, the denture was kept up in its place partly by suction, and partly by clasps round the two first permanent molars.

THE APPLICATION OF TEETH FOR THE PURPOSE OF  
MASTICATION ONLY, THEIR FASTENINGS, ETC.

We now come to the consideration of those cases in which patients desire to be supplied with teeth with a view to the maintenance or the restoration of their health. It will be obvious that this part of our subject is more important than any other, and that the teeth sought for require much careful manipulation.

These are classed under the heads of partial and complete sets. The very obvious fact should be borne in mind, that the front teeth are thin and wedge-shaped, whilst the back teeth are flat and broad, and that these latter teeth are furnished with several cusps, and with depressions on the antagonising surfaces corresponding to each other, in order that the food may be bruised preparatory to its being carried into the stomach.

When these back teeth are lost, the front

ones are brought into contact with each other; a circumstance that does not take place when the back teeth are present. The whole of the masticating process is thus thrown upon the front teeth, which, naturally, having another office assigned to them, are unable to bear the continual work and strain upon them. In order, therefore, that the mischief created by the absence of the whole of the back teeth may be averted, artificial dentures are supplied, corresponding to those represented in Plates 4 and 5, Figs. 1 and 2. These may be fastened in, either by means of spiral springs, or by small clasps round the bicuspid teeth, or by atmospheric pressure. I may be allowed here to remark that for my own part I prefer spiral springs as agents of attachment, since by this means clasps are entirely dispensed with; and I am informed by patients, that dentures when made upon this plan fit with the greatest ease and comfort.

ARTIFICIAL TEETH RETAINED IN THE MOUTH BY  
ATMOSPHERIC PRESSURE.

When partial sets are retained in the mouth by means of suction or atmospheric pressure, and are mechanically well made, they are productive of great comfort to the patient. The manner in which atmospheric pressure plates are generally constructed, is by the formation in the plate of what are termed air cavities or chambers; they may be made with one in the centre or one on either side.

'With a cavity plate the loss of a single tooth, or any number of teeth, may, in most cases, be replaced without the aid of clasps, and when this last means of support for artificial teeth can be dispensed with, it is important that it should be done.' \*

It has already been explained, that clasps

\* Harris's Principles and Practice of Dental Surgery,  
p. 701.

are apt to exercise deleterious effects on the teeth to which they are adapted. It should be noticed, however, that there are cases in which this mode of inserting artificial teeth by suction or atmospheric pressure, cannot be resorted to without the risk of causing some little discomfort to the wearer. And in any case the following disadvantages have been noticed as resulting from its use, granting the plate has been made with cavities, or what are called air chambers.

'In the first place, the protuberance on the lower part of the plate interferes, in some degree, with the movements of the tongue, and with the articulation of words, but it becomes less and less manifest the longer the piece is worn, until ultimately the individual almost ceases to be conscious of the presence of any foreign body in his mouth. But there is another and more serious objection, and it is this : there is a constant tendency of the mucous membrane over the cavity to thicken, and come down into it, assuming a sort of hypertrophied

condition, and in some cases it has ulcerated. We have, however,' adds this author, 'met with but two cases in our practice in which this has happened. But this morbid tendency may, in nearly every case, be prevented by leaving the piece out of the mouth every night; and the shallower the cavity the less will be the liability to it.'\*

Mouths most suitable for plates upon the suction plan are those that are not flat, but deep, having a prominent alveolar ridge, and the rugæ of the palate well defined.

Provided that the model of the mouth be perfectly correct, and that the various manipulations be carried out in a skilful manner, this is a most comfortable method of wearing false teeth. It is one that dispenses not only with clasps, as already noticed, but with spiral springs likewise. These at least have only to be called in as agents for fastening in artificial teeth, whenever the construction of the

\* Harris, p. 702.

atmospheric pressure plate is defective. It is above all things necessary that the mouth should be perfectly healthy, since the amount of pressure is very great, and unless the gums are in a sound condition injurious effects are likely to arise.

#### COMPLETE SETS OF ARTIFICIAL TEETH, AND THEIR FASTENINGS.

Only one more class of artificial dentures remain to be noticed, viz. complete sets of them. And here it will be sufficient to remark that the same process is carried out in making a complete set, as in making a few teeth, the only difference being that the plates are mounted in full, and that they are retained in the mouth, (as may be seen upon reference to Plate 6, Fig. 1), by means of spiral springs.

## CHAPTER IV.

ON VULCANIZED INDIARUBBER AS A MATERIAL  
FOR THE BASE OF ARTIFICIAL TEETH.

IT is now time to discuss the subject of another most important material used in mechanical dentistry. I allude to vulcanized india-rubber, which has in great measure superseded gold, platina, and other substances, as a base for artificial teeth. This material, the original invention of Mr. Putman, of New York, upon which many and great improvements have taken place, is in almost universal request, and may fairly be considered one of the greatest modern acquisitions that the dental art has yet gained.

The vulcanite base possesses an advantage over gold in one very important feature--a gold

plate must be swaged between what is commonly known as a cast and die, and it not unfrequently happens that the rugæ or irregular surface of the palate becomes obliterated, the plate fitting as on a flat surface. In the manipulation of a vulcanite denture, the material is subjected for about four hours to a great heat, by means of a steam apparatus, when it melts into and between all irregularities, so that, supposing the model of the mouth to be correct, a more accurate, and, if well made, complete fit it is impossible to obtain.

From one tooth to a complete set can be as readily made in rubber as in gold, but it is undeniable that cases come under notice in which it may be injudicious to use it.

It is capable of receiving a finish equal to that of gold, and is repaired with the utmost facility. In all cases in which it has been previously the custom to use bone as a base for artificial dentures, the vulcanite has taken its place.

ITS SUPERIORITY OVER BONE AND IVORY, AND  
REASONS WHY IT SHOULD ALWAYS HAVE THE  
PREFERENCE.

One or two out of the many reasons in favour of this substitution may be given. Bone is liable to decay ; through the action of the fluids of the mouth upon it, it becomes highly offensive ; owing to this cause it requires replacement at the expiration of at least every three or four years, and sometimes more frequently still. Bone, however sound, cannot stand the wear and tear of time and of constant use so well as the vulcanite ; and, as to solidity or density of material, the mineralised vegetable has an advantage over the animal substance. Vulcanite rubber, in short, is indestructible, and not liable to suffer from the action of anything that may enter the mouth, and, if for this reason alone, it is superior to bone. No argument can be brought forward in favour of either the hippopotamus or the walrus tooth, as materials in

mechanical dentistry. They are virtually abandoned by those who wish to do credit to themselves, and to confer comfort upon their patients. Let it suffice to adduce in support of these opinions the following remarks of the late Dr. C. Harris:—‘These teeth (*i.e.* those made from the tooth of the hippopotamus) soon change their colour, assuming first a yellow then a dingy or bluish hue. They are also very liable to decay. We have in our possession a number of blocks of this sort, taken from the mouths of different individuals, some of which are nearly half destroyed. But there is another objection to teeth made of this article, which, even were there no other, would be sufficient to condemn its use. It is that they, like those formed from elephant ivory, give to the air retained from the lungs an insufferable offensive odour, which cannot be corrected or prevented. They may be washed half a dozen times a day, and taken out and cleaned again at night, but it will be grossly perceptible, and although it may be

much worse in some mouths than others, no one who wears teeth formed from this substance is entirely free from it. To one whose attention has never been directed to the subject, it would be astonishing to observe the effects produced upon the breath from wearing two or three of these teeth.'

OTHER ADVANTAGES TO BE OBTAINED BY USING  
VULCANIZED RUBBER.

Rubber has another advantage over gold or any other material, in being so made that spaces between the teeth are dispensed with. Hence no substances can collect to become putrid or offensive. This renders it a most cleanly article, which is a great desideratum in artificial teeth. At a meeting of the Odontological Society, held in April 1859, at the Society's rooms in Soho Square, Mr. Saunders, in the course of a terse and clever speech, made the following remarks on the advantages, in another respect,

possessed by vulcanite over other materials used in mechanical dentistry. ‘Its lightness,’ he said, ‘was a great advantage, and in this respect it was an improvement upon anything they had hitherto met with. He might mention the case of an old clergyman, in somewhere about his eightieth year, who was greatly tormented, and who told him very pathetically, that at the end of the first half hour of his sermon, his teeth made his jaws ache, and he became indistinct, so that the congregation could not hear the end of the discourse. He resolved to see if he could not make the old gentleman happier, and he gave him a vulcanite set, which answered every purpose equally well, and saved upwards of an ounce in weight. The original set was extremely well made, weighing two and a half ounces or rather more, but the new set weighed within an ounce and a half.’ Another speaker mentioned that the vulcanite ‘was perfectly non-absorbent, so that if they took a piece out of the mouth, and laid it upon a

table, it was perfectly dry within a minute afterwards. In numerous cases in which he had tried it it had been marvellously successful.'

And again, too, at the American Dental Convention, held at Newhaven, Connecticut, in August 1861, the subject for discussion was 'the relative merit of the various materials used as a base for artificial dentures, and the method of mounting them.' Some members preferred metals, others vulcanite, and the following are some of the opinions with respect to india-rubber.

Dr. Whitney said that 'his experience had been formed by many years' use of silver, gold, continuous gum and vulcanite. Of all these he preferred the last-named substance, thinking it superior to anything else. If the impression is perfect, we could be sure of a fit in every instance. The twang, which was so much an objection in other materials, was in this obviated, and besides this the cost was not so much to the patient. Dr. Mallett said : 'He had been

the first to try experiments with rubber for artificial teeth in the United States, having perfected and used it for six years. The longer he used the vulcanite work, the better he was pleased with it ; and this was also the testimony of his patients, many of whom had worn other materials.' Dr. Franklin observed that the relative value of different kinds of work could only be determined by the amount of good that could be accomplished by each, and then added that his own preference was for vulcanite ; and that he considered time had proved its purity and indestructibility, but that it was necessary (for the vulcanite to preserve its superiority over other materials), that the utmost care should be used, with a view to the attainment of perfect results.

These conventions are held annually in different cities and towns throughout the United States, for the purpose of discussing the relative merit of all things connected with dentistry. They are visited by all the dental practitioners

of eminence throughout the country, who take part in the discussions, and give to the world in this way their experience — the fruit of years spent in toil and study.

To these remarks on the vulcanite rubber as a base for artificial dentures, I will only add that my own experience fully corroborates the truth of the statements made. I have had but one case in which it failed to answer the purposes for which it was intended, and in this instance a gold plate was substituted with success.

Many more pages might well be filled in noticing the various processes that are carried on in the manipulation of a piece from this material; but to undertake such a task is quite foreign to my purpose. My only object is to point out to those who are about to adopt artificial teeth the material that is likely to be of the greatest service to them. I would remind such readers that the substance used should be indestructible, that the teeth employed should

be of a quality likely to last, that they should be perfectly clean and easy in the mouth, and not to be detected by the closest observer. The vulcanite patent answers all these purposes, and the teeth made expressly for it have undergone great improvements, both in shape and colour, so that it is almost impossible to injure them unless violence is used.

#### ADVICE TO THOSE WEARING ARTIFICIAL TEETH.

I shall offer in conclusion some few words of advice to those who wear artificial teeth, as well as to those who are about to adopt them.

To those who wear artificial teeth, whether small pieces, or partial sets retained in the mouth by means of clasps disposed round the remaining teeth, or complete sets held in by spiral springs, I would say,—be particularly careful when you take them out of the mouth to cleanse them from every particle of matter, and especially between the clasps. Patients are

too apt to neglect this simple rule, and as a consequence of this, the natural teeth round which the clasps are fitted become destroyed, and not unfrequently, though most unjustly, these careless wearers proceed to blame the dentist, as though *the clasps* had produced the mischief, and not the retention of acid substances between the clasp and the tooth.

And again, remove false teeth from the mouth every night on retiring to bed, and place them in a tumbler of clean water. In the morning cleanse the teeth that remain in the mouth, then brush the artificial teeth, and when they are placed in the mouth they will be found comfortable, clean, and sweet. Unless you are careful in cleaning them regularly, they will become very offensive, and will act as an irritant to the gums.

The manner in which artificial teeth act upon the gums when not taken out and well cleansed every day, has been so admirably described by Mr. Tomes, that I feel justified in quoting his

remarks : — ‘ It is of great importance that you should know how to preserve false teeth, for in the absence of proper attention they are soon destroyed, and still sooner become offensive. The wearer often seems singularly unconscious of the offensive odour which arises from neglected breath. Not so, however, the bystander ; he is almost poisoned by the offensive breath of his neighbour. Artificial teeth cannot be too well kept, but they can be very easily, and frequently are, kept too ill. If the base be gold and the teeth mineral, still they should be well cleansed every day. If the base be gold and the teeth dentine, there is greater need of frequent and careful cleaning ; if the base be of dentine and the teeth natural teeth, the piece will soon be destroyed if cleaning be neglected.’

‘ Nothing short of never removing artificial teeth from the mouth should be more strongly deprecated, than the habit some people have of taking them out only once or twice a week, and at other times cleaning them in the mouth.

They cannot be well cleaned in the mouth, and the surface of the mouth cannot remain healthy when perpetually covered. For it must be borne in mind that the gums are covered with epithelium, and that it is the nature of this tissue to be perpetually forming below, while it is suffering perpetual loss from its surface. The scales are rubbed off by the tongue and food. Now if the epithelium be perpetually covered by a base of artificial teeth, the formation will still go on, but the loss from the surface will be retarded. The outer epithelium scales may separate, but cannot escape from the surface ; they, therefore, accumulate under the base of the teeth, and then become highly offensive. After a while the mucous membrane inflames, and the development of epithelium is suspended or vitiated ; the scales no longer adhere to each other to form a membrane. If the teeth be removed after the mouth has got into this condition, the surface which has been covered will be found red and vascular, and

will bleed on the slightest touch. The fitting surface of the teeth will be coated with a white sebaceous matter, highly offensive.\*

ADVICE TO THOSE ABOUT TO ADOPT ARTIFICIAL  
TEETH.

To those about to adopt artificial teeth, I would say, do not be led away by inducements that can never be accomplished. Cheap false teeth are always dear in the end, and the mouth is not to be practised upon by charlatans with impunity. It is too valuable a part of the human frame to be subjected to ill-usage in the shape of never fitting artificial teeth, and of rough edges that will cut and inflame the gums. But, on the other hand, be not uneasy and disposed to quarrel with your dentist if he provide you with teeth that do not all at once seem to give you pleasure. Be patient, and

\* Use and Management of Artificial Teeth : J. Toomes, pp. 86, 87.

allow art to come up with nature slowly but surely in this matter. ‘Artificial teeth must be regarded by the wearer as tools, the use of which have to be learned by patient trials. The first time you take up a joiner’s plane you cannot work it, nor would you expect to do so without previous practice; so with artificial teeth: you have no right to expect to masticate effectively with them until by practice you have learned their use. I would recommend that patients, before they wear artificial teeth, should carefully examine them in their several parts and actions, and thus learn how they should be used, and what is to be expected of the teeth, and what is to be expected of themselves, in acquiring the art of artificial mastication.’\*

## CONCLUDING REMARKS.

A patient places himself in our hands and expects just and fair treatment. His health

\* Tomes, pp. 370, 371.

depends upon our skill and judgment, and our reputation will be increased or lessened according to the treatment he receives. The patient demands from us a straightforward statement of his case; he asks us to tell him what he requires, and to name the most suitable and lasting material, and this at a moderate cost.

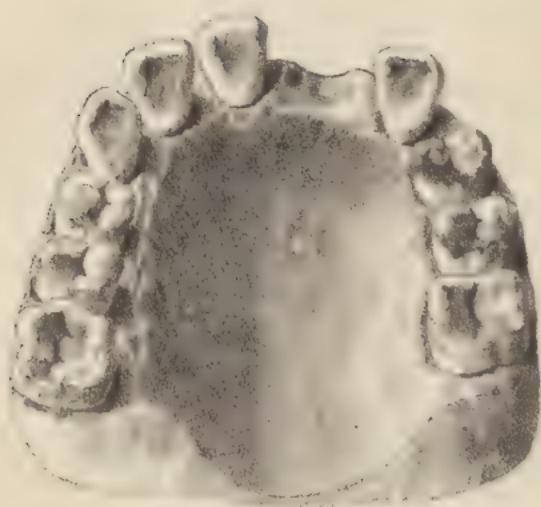
Whether our patients place in our hands a liberal or a small fee, as may be proportioned to their circumstances, we must deal with one and all in the same manner. Let our work be as lasting and as well finished for the one as for the other.

The time has now arrived when it is no difficult matter to discover who are competent to carry out work intrusted to them, and who are not. The College of Surgeons has stepped into the arena, and has rescued a noble branch of medical science, that was fast sinking into disrepute through the inefficiency of too many who had taken upon themselves the onerous duties of dental practitioners, with little or no preparatory

knowledge or training. They have instituted an examination, to which those will readily submit themselves who are competent to enter the lists. So have they recognised that which was once looked upon with suspicion. And none could blame the man who would hesitate before allowing his tooth to be extracted by a person whose credentials might not be such as to entitle him to public confidence. The result of this salutary interposition is, that at the present time few hospitals in the United Kingdom have not a legally qualified dentist upon their medical staff.



**FIG. 1.**



**FIG. 2.**





**FIG. 1.**



**FIG. 2.**





FIG. 1

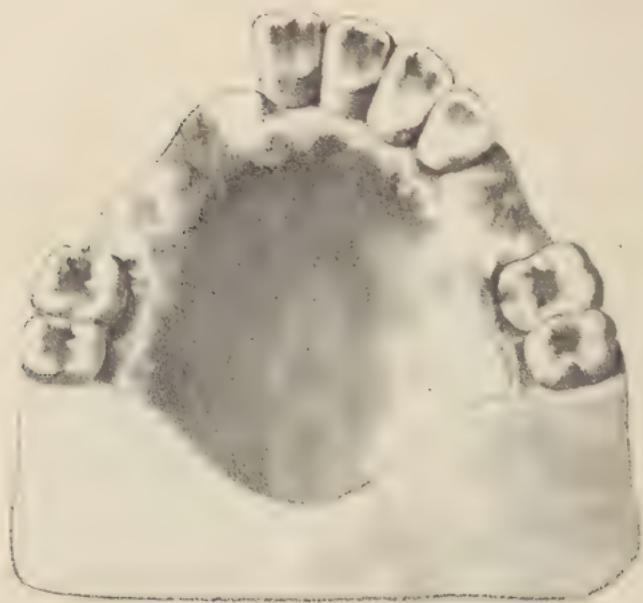


FIG. 2.

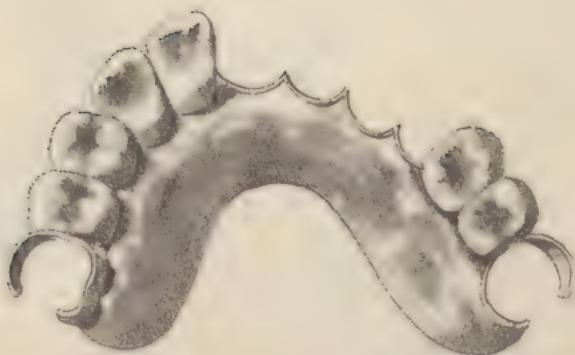




FIG. 1.

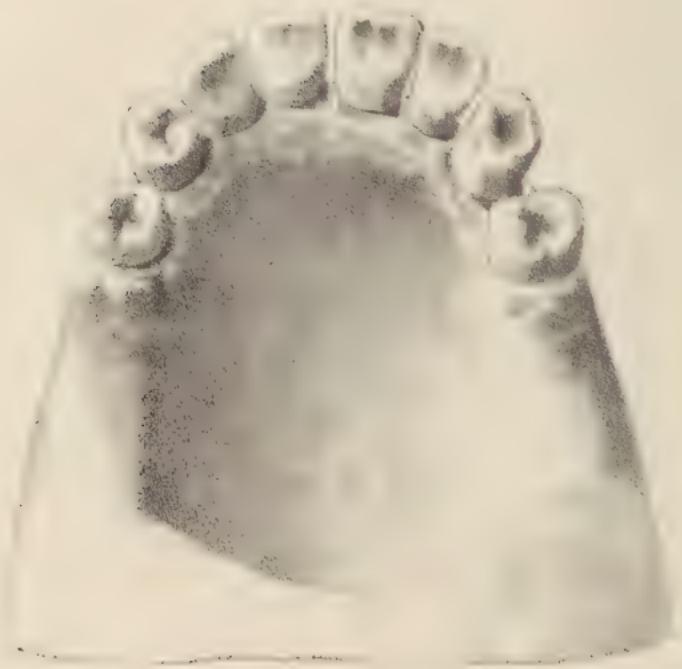


FIG. 2.





FIG. 1.

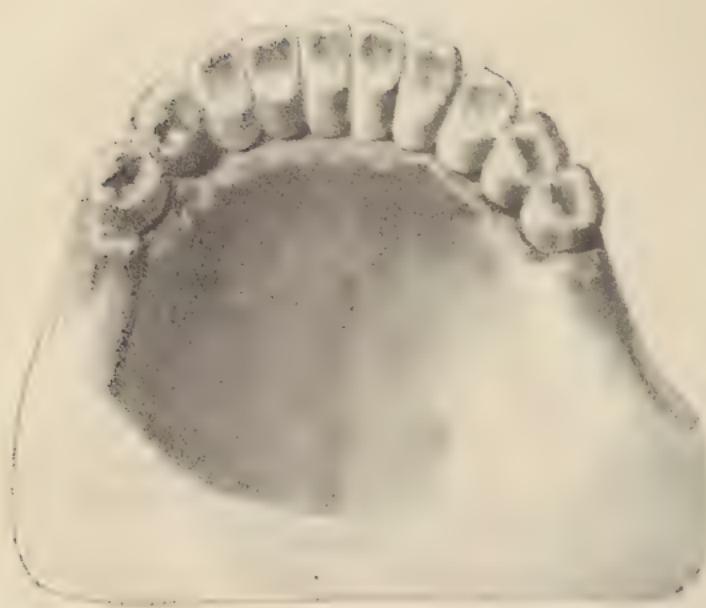


FIG. 2.







A India Rubber

B Fine Gold Plate.

## EXPLANATION OF THE PLATES.

### PLATE 1.

FIGURE 1. — Drawing taken from the model of a mouth requiring one single front tooth.

FIG. 2. — Artificial piece corresponding to the above drawing, made in gold, and mounted with a mineral gum tooth, having its principal attachment round the left bicuspid.

### PLATE 2.

FIG. 1. — Drawing taken from the model of a mouth requiring four teeth, two anterior and two posterior.

FIG. 2. — Artificial substitute corresponding to the above drawing. Mineral teeth mounted on a gold plate, and retained in the mouth by a clasp round the first left superior molar and second right superior bicuspid.

### PLATE 3.

FIG. 1. — Drawing taken from the model of the mouth of a lady requiring six teeth, partly for personal appearance, and partly for the purpose of assisting mastication.

In this case the denture was made in vulcanized Indiarubber, and was retained in the mouth in a manner somewhat similar to the last case. The patient had previously worn a metal plate, but derived more comfort from the Indiarubber one, on account of its extreme lightness and cleanliness. Mounted with mineral teeth.

FIG. 2. — Artificial piece corresponding to the above drawing.

### PLATE 4.

FIG. 1. — Drawing taken from the model of the upper jaw of a lady who had lost all the posterior teeth from the first bicuspid.

The case was made in gold and mounted with ivory blocks, being made previous to the recent introduction of Indiarubber, and it was retained in the mouth by means of a clasp round each bicuspid. This was a case in which the application of artificial teeth had become an absolute necessity, since the whole of the mastication was thrown upon the front teeth, and had caused them to project to a considerable extent, and the patient had also begun to suffer considerably from the want of her food being properly masticated.

FIG. 2. — Artificial denture corresponding to above drawing.

### PLATE 5.

FIG. 1. — Drawing taken from the model of the lower jaw of the same case as the last, fitted with a gold plate, mounted in the same manner, and held *in situ* by the same means as the upper piece.

FIG. 2. — Artificial denture corresponding to above drawing.

### PLATE 6.

FIG. 1. — Complete set of artificial teeth. Mineral teeth mounted on an Indiarubber base, having a gold palate let into the rubber. Retained in the mouth by means of spiral springs.

## APPENDIX

### SHOWING THE SECONDARY DISEASES PRODUCED BY DECAYED TEETH.

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To the eye of the unprofessional observer, there would appear to be nothing very serious and little prejudicial to the general health in a carious or otherwise diseased tooth.

He will suppose too frequently that pain, inconvenience, or a temporary cessation from business, and at the most only a little derangement in health, are likely to be the most troublesome consequences of a diseased state of the dental organs.

But, could the record of cases be placed before him in detail,— could the beginning, and the slow development of such diseases be known which have broken up so many constitutions,— it would readily be seen that in many instances they arose from that apparently trivial object,— a diseased tooth.

Why should there be any difficulty in inducing individuals to see that such is the case?

A tooth is not a thing detached from and foreign to the rest of the system,— it is not an unimportant part of the body that will keep its decay to itself. Is it denied the sympathy with the rest of the human frame in which it works? No; we have seen in a former part of this work that a tooth is a member as beautifully and wonderfully made as any other that is formed to subserve the purposes of the animal economy.

We have seen that it is traversed through its entire body by infinitesimal tubuli ; that the nerves, those electric channels of intercourse between the various parts of the frame, reach and enter into its solid substance, and that blood-vessels penetrate them for the purpose of supplying them with vitality.

If such were not the case, we should not have it on record, that a man of Padua, having had a tooth shortened for the purpose of correcting an irregularity, died immediately afterwards in an epileptic convulsion, ‘and that a short fragment of nerve was found in the section of the tooth.’\*

Diseases of the teeth, as the cases which follow these remarks will show, have occasionally been the sole origin and cause of many very serious affections.

\* Bond’s Dental Medicine, p. 197.

Tic-doloreux, neuralgia, headache, earache, nervous depressions, abscesses of the face and jaw, fistulous openings, the most distressing symptoms of dyspepsia, &c., are amongst some of the more frequent disorders that have arisen from a neglected state of the teeth. A common cause of the dyspepsia has already been alluded to in my remarks upon artificial teeth, and if more conclusive evidence were wanted, I refer my readers to cases which will be found at the end.

Headache, earache, faceache, neuralgia, and tic, are the more common results of carious teeth; but it by no means follows that because a person has a number of decayed teeth and stumps which happen not to be painful, that secondary diseases like those alluded to may not arise from such a state of things.

Again, the teeth are the organs of mastication, by which our food is prepared for the stomach; consequently, if they are deficient in their work, the food cannot enter that organ in a fit state for the digestive organs to act upon.

Acrid or purulent matter is secreted and formed from the irritation set up by diseased teeth in the surrounding structures; this during the process of mastication is mixed with the saliva and swallowed; by this the secretions of the stomach are more

or less vitiated; and thus the foundation of various forms of indigestion is laid.

Dr. Bond, of the Baltimore Dental College, relating a case in which nearly all the teeth were decayed to the edge of the gums, says:—‘The food is no longer chewed, and everything which passes through the mouth is mixed with a vitiated compound of mucus, pus, and blood, which descends into the stomach to mingle with the gastric juice, and deteriorate the quality of that most important fluid.’\* Thus we see by what means the nervous powers become weakened, why appetite fails, and why digestion becomes impaired.

Need I make any further remarks to point out the importance of careful and early attention to the teeth? It is natural for persons in advanced age to lose their teeth, but not so in the young. The cases I have selected from my own practice will show that the mouth and teeth are deserving of more attention than they generally meet with.

In saying this let me not be misunderstood: my only object being to show that, as the teeth are undoubtedly the source of many and serious complaints, and are frequently much neglected and overlooked,

\* Bond’s Dental Medicine.

I have put before my readers in strong terms the claims the teeth have to frequent and careful attention.

Dental surgery is something more than knowing how to manufacture artificial teeth, or how to extract a natural tooth when decayed, or to stop them for the purpose of preservation. The dental surgeon must be well acquainted with all the various parts of the head, and every structure appertaining to the teeth; he must know the seat and connection of the nerves supplying them, or how shall he correctly trace pain in any part of the head to its frequent origin in the teeth?

If I might refer to any one class of cases more than another in which secondary diseases are produced by decayed teeth, I should unhesitatingly point to those in which patients suffer from headache, earache, faceache, and pains in the temples.

These cases are of daily occurrence in practice; and it is surprising how readily they yield upon the removal of any decayed teeth or stumps that may be found setting up irritation in the mouth.

The pain is of a very different character to toothache; hence the reason why such pains are not commonly referred to the teeth generally being dull and heavy rather than sharp and lancinating, moving

about from place to place, sometimes situated in the temples, at another time on the top of the head, again in the ears, and along the jaws: it frequently comes on at stated periods, lasting several hours at a time, frequently disappears without cause, to commence in the same manner, and is always more violent when the patient becomes warm in bed.

These pains have all the character of pure neuralgia; and it is on this account, coupled with the fact of the teeth not being painful, that the mistake so frequently occurs, that the pains are neuralgic, and totally unconnected with the teeth, when, in fact, they arose altogether from disease in these organs.

' An immense amount of accumulated suffering has occurred which otherwise might have been prevented; the true character and seat of many diseases have remained undetected, and their successful treatment, as a necessary consequence, an utter failure. It is known to every well-informed physician and dentist, that cases have occurred and are recorded where patients have, year after year, taken medicine of every kind, and from the hands of the greatest variety of physicians, and all without avail; that such class of patients have, further, by the advice of their medical practitioners, gone in pursuit of health

and for the removal of their diseases, pronounced to be beyond the reach of medical and surgical skill — we say have gone, by the best medical advice, for the cure of their several cases, to distant regions, crossing seas, scaling mountains, visiting springs, taking every kind of exercise, and every variety of diet, and yet all of no avail, as they have severally returned home with little or no improvement in their disease, which still exhibits the same character and unmanageableness as when they started on their tour. By some lucky or accidental suggestion, the teeth are suspected as the probable cause of the whole mischief, and with some degree of plausibility, as everything else had failed to give relief. The suggestion thus is acted upon, skilful dentists are employed, and by correcting the diseased condition of the mouth and teeth, the before incurable disease of each becomes readily curable. The general health is speedily restored, and the whole of this wonderful change is brought about simply by the application of a little dental skill.

‘In other words, disease had commenced in the teeth and extended to other parts of the system, the general relations of the body became disturbed, and the physician attending solely to these latter, whose disturbance was only secondary, and overlooking the

special relations of the mouth, which was the source and cause of all the mischief. We say by thus disregarding this law of connection established between these two classes of relations, and not giving proper estimate of the reciprocal amount of influence which each exerts upon the other when diseased, is the only explanation we think which can fairly be given for the failure in the diseases under notice ; for when the cause was discovered, and the laws of pathological relationship obeyed, they were found to be perfectly manageable.\*

Cases in support of the arguments just referred to my readers will find at the end of this appendix ; and, in most instances, it will be found that the mischief had existed for a considerable length of time, and that an ultimate cure had been effected by the extraction of a few teeth or stumps or, perhaps, in the removal of only one. The severe pains in the ear previously alluded to may, in nearly every case, be attributed to a diseased condition of one of the inferior wisdom-teeth, upon the removal of which such pains quickly disappear. I might adduce a long list of arguments to show how intimate are the connection between the teeth and the economy

\* American Journal of Dental Science 1849. "Handy on Pathological Relation of the Mouth."

generally, but I think enough has been said to prove how frequently the teeth are the source of secondary diseases in other parts, which, in many instances, are attributed to causes of a different nature to those to which they are really due.

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### CASES.

#### NEURALGIC AFFECTION OF THE FACE, ARISING FROM A CARIOUS WISDOM-TOOTH — REMOVAL OF THE TOOTH — CURE OF THE NEURALGIA.

CASE 1.—A young lady consulted me, in the month of April 1858, respecting violent periodical pains on the left side of the face, shooting through the ear, the temple, and along the side of the lower jaw; but the root of the tongue was the seat of such violent pain, that for two or three hours together the head was completely drawn downwards. These paroxysms lasted at times some six or eight hours, and nothing relieved them but strong narcotics.

Upon an examination of the mouth, I found the left lower wisdomtooth decayed to the edge of the gum, and the surrounding parts highly inflamed. Although the tooth was not painful in itself, I felt persuaded it was the sole cause of all the patient's suffering.

I advised the immediate removal of the tooth, together with one or two decayed stumps in another part of the mouth. The patient readily consented to the operation, but at the same time was very unwilling to believe that the pains had any origin in her teeth. I extracted the tooth and stumps, since which time the patient has been quite free from pain.

FISTULOUS OPENING IN THE LOWER JAW, ARISING FROM  
A DECAYED LOWER MOLAR STUMP - REMOVAL OF  
THE STUMP, AND CURE OF THE FISTULOUS OPENING.

CASE 2. — Harriet E——, aged fifteen, applied for relief at the Dental Dispensary, in the month of December 1858, respecting a fistulous opening in the lower jaw, and also a small abscess underneath the chin, both of which were discharging very profusely at the time I saw her. The patient was in a very weak and exhausted state from the continual discharge, which had lasted for a period of nine months. Various remedies had been resorted to in order to check the flow of pus; but so long as the irritant remained, so long was the mischief likely to continue. Upon passing a probe through the opening, it came in contact with the stump of the first permanent lower molar, the crown of which had been fractured in an attempt to extract the tooth. I removed the stump with Thomson's elevator, an

admirable instrument in such cases; a considerable quantity of pus followed the operation, and the patient experienced immediate relief.

Dec. 16, 1858. — Very little discharge; health much improved.

Jan. 1859. — Cured.

NEURALGIC AFFECTION OF THE FACE CAUSED BY DECAYED STUMPS — REMOVAL OF THE STUMPS, AND RECOVERY.

CASE 3. — A young woman consulted me respecting some artificial teeth she required to replace the central and lateral incisors, canines, and first bicuspids of the upper jaw. The natural teeth had decayed away and broken off, without giving any pain, leaving the stumps in the jaw. She had been subject to most violent pains in the face, principally in the temples; could assign no cause for the pains, never having had any toothache; could get no sleep at nights, unless induced by strong narcotics; was totally unfit to follow any occupation; and, from continual suffering night and day, her life was rendered perfectly miserable. I advised the removal of all the stumps before inserting any artificial teeth. Moreover, I refused to furnish any new ones unless she had undergone the operation, well knowing they would be perfectly useless to her. After some hesitation, she consented to have them

removed, which was done in three sittings. Since the first were taken out a decided improvement had set in, which continued daily until she was quite free from pain. My patient now enjoys excellent health, sleeps well, and follows a light occupation. The artificial teeth have been inserted, and are a source of great comfort as regards mastication, articulation, and personal appearance.

Cases like these show the importance of carefully examining the mouth previously to inserting artificial substitutes, and the removal of all teeth and stumps likely to cause irritation.

#### ABSCESS IN THE PALATE CURED BY THE REMOVAL OF A CARIOUS STUMP.

CASE 4.—A man about fifty years of age consulted me respecting a large abscess occupying a considerable portion of the left half of the palate, which was at the time he consulted me discharging, and had been for a considerable time, the pus exuding between the central incisors in large quantities whenever the abscess was pressed with the finger or tongue. The teeth that remained in the jaws appeared perfectly healthy; tapping each gently gave no evidence of sensitiveness. The stump of the left superior canine remained firmly embedded in the jaw, which I immediately suspected to be the cause of the mischief. My opinion was further strengthened

by the information I obtained, that the patient had been in the habit of trying silver coins between his teeth for the purpose of testing their genuineness, his occupation being one in which a considerable amount of money passed through his hands. This habit no doubt brought on periostitis and its resulting suppuration. The canine tooth ultimately decayed and broke off, and the abscess appeared very shortly afterwards.

The patient consented to the removal of the stump, and although from its deep-seated position, the operation was attended with some little difficulty, it readily yielded to the forceps generally used in such cases. Very little pus followed the operation, but a considerable quantity of blood was lost. At the apex of the stump I found a small sac, clearly indicating that the stump was the irritant that caused so much annoyance to the patient.

Since the operation I have heard that the abscess has entirely disappeared, and the patient's mouth has resumed its natural healthy condition.

PALATINE ABSCESS CAUSED BY A DECAYED MOLAR—  
REMOVAL OF THE TOOTH, AND CURE OF THE ABSCESS.

CASE 5.—A young woman consulted me in the month of August 1858, respecting an abscess situated on the left half of the palate, which, when pressed, discharged round the necks of the teeth on

that side of the face. This case was very similar to the last, and the disease had its origin in the first permanent molar, which was considerably decayed. There was no pain whatever in the tooth. The surrounding parts were slightly inflamed, and the continual discharge caused the patient great uneasiness, and rendered the breath offensive. I immediately removed the tooth, when a considerable quantity of pus followed. I saw the patient again in the following month, when the abscess had entirely disappeared. The remaining teeth are healthy, well-formed, and very regular.

MORBID GROWTH OF THE GUMS, CAUSED BY DECAYED STUMPS — REMOVAL OF THE STUMPS, AND DISAPPEARANCE OF THE MORBID GROWTH.

CASE 6.—A boy, twelve years of age, was brought to me for advice respecting his gums, which I found, upon examination, to be swollen so much as to hide a greater part of the teeth; in some places the tips of them alone could be seen. A slight discharge oozed from the necks of the teeth. They bled profusely upon the slightest touch, and were so sensitive that the softest substances coming in contact with them gave great pain. He was unable to take any food, and had for some time lived upon beef-tea and fluids. A minute examination pointed out to me the cause. Several loose stumps could be distinctly felt,

which were acting as powerful irritants. These I managed to remove, but not without some difficulty, on account of the extreme pain caused by any instrument coming in contact with the gums. I freely scarified the gums, and ordered an astringent gargle, composed of half an ounce of tincture of myrrh, and seven ounces and a half of compound infusion of roses, to be used several times a day ; and the teeth to be carefully cleaned as soon as the gums had assumed a more healthy appearance.

In about a fortnight, I had the satisfaction of seeing that, by carefully following out my instructions, the mouth was very comfortable. I removed two more loose stumps, and also the first permanent molar in the upper jaw, which was decayed to the edge of the gum, and ordered the patient to continue the gargle. In the course of two or three weeks the lad was perfectly well.

FISTULOUS OPENING IN THE LOWER JAW, ATTENDED BY  
SWELLING AND INFLAMMATION OF THE SUBMAXIL-  
LARY GLAND, CAUSED BY A DISEASED WISDOM-TOOTH  
— REMOVAL OF THE TOOTH, AND CURE OF THE  
DISEASE.

CASE 7.—In December 1859, a gentleman consulted me respecting a fistulous opening in the lower jaw, near the angle, which was accompanied by a considerable amount of inflammation in the sub-

maxillary gland on the left side. He stated that this evil had been in existence during nearly eight weeks; that it had gradually become worse, and had yielded to none of the usual remedies. He complained that it had deprived him of rest night and day, that the pain had been incessant, and the discharge from the opening continuous. The jaw had become fixed, so that little or no food could be taken, and the patient, when I saw him, was reduced to a state of great weakness.

Having examined the mouth to the best of my ability under the circumstances, I found that the dens sapientiae on the same side as that on which the disease was situated was considerably decayed, and very loose and tender to the touch. The patient, having an important engagement to fulfil on the day on which I saw him, deferred the extraction of the tooth till the morrow. In the meantime I recommended that he should use a fomentation of poppy-heads as frequently as possible until he should call the next day.

Dec. 11.—The mouth could be opened with somewhat more ease, so that I was the better able to reach the tooth. Still the jaw was closed sufficiently to prevent the entrance of a pair of forceps. I, however, removed the tooth by means of an elevator, and a considerable quantity of discharge followed the operation. Renewed fomentations were then advised.

27.—The fistulous opening had quite closed up, and the surrounding inflammation had abated. The patient could open his mouth as he had been accustomed to do before it became diseased.

This was a very successful case, and one in which the cure was rapid.

FISTULOUS OPENING IN THE LOWER JAW, CAUSED BY A DECAYED MOLAR STUMP — REMOVAL OF THE STUMP, AND CURE OF THE FISTULA.

CASE 8.—In February 1861, Eliza P——, aged twelve years, a patient in the Dental Dispensary, sought relief respecting a fistulous opening in the cheek, which had been discharging matter for nearly two years, and which was supposed to have originated from the stump of the first lower molar on the left side. The crown of this tooth had been fractured in an attempt to extract it. Some few days after it had been broken, the surrounding parts became swollen, inflammation of the periosteum set in, followed by suppuration, and this finally ended in the formation of an abscess, which had broken externally, and had continued to discharge up to the time when I saw her. She had been a patient at the General Hospital during a long time, and here the usual remedies had been resorted to without benefit.

I removed the stumps with Thomson's elevator.

They had been broken in so low as to preclude all possibility of easy application of the forceps, and the operation was rendered somewhat difficult. By the aid, however, of the elevator, and by a moderate steady pressure, they were soon extracted; and at the end of each fang I found a large sac, which proved beyond a doubt that the cause of the mischief had now been removed. A free discharge continued for about forty-eight hours after the operation, and in about three weeks the opening externally could scarcely be seen. The gums inside were nearly closed up.

In the month of April, the patient having occasion to come again to the dispensary to undergo some other operations, I had an opportunity of seeing her, and found that the external mark was entirely obliterated, and that the second molar was gradually filling up the space caused by the removal of the first molar.

NEURALGIC AFFECTION OF THE FACE, CAUSED BY A  
NUMBER OF DECAYED AND LOOSE STUMPS—REMOVAL  
OF THE STUMPS, AND SUBSEQUENT CURE OF THE  
NEURALGIA.

CASE 9.—A young woman, thirty-one years of age, consulted me at the commencement of January 1860, under the following circumstances:—For many months she had been suffering from pain in

the jaws, face, ears, temples, and from great depression of spirits. She had no enjoyment in taking food, and suffered from constant indigestion and other unpleasant symptoms. She had been under medical treatment for a considerable length of time without any benefit, and the state of her mouth had never been inquired into ; and thinking herself that the teeth might possibly give rise to some of her maladies, she consulted me upon the subject.

Upon examination, I found the teeth in such a state as to warrant me in concluding that the cause of her illness was to be attributed in a great measure to their condition. There was not one tooth that was not partially or wholly destroyed by caries, and but one alternative suggested itself, which was that she should have extracted all that could not by the usual means be restored to usefulness. The patient, however, was reluctant to have so formidable an operation performed ; but feeling somewhat convinced on her own part that it might lead to her recovery, and being assured that the operation should extend over several sittings, she consented to a beginning.

In due course of time the stumps of the molar teeth, both superior and inferior, together with several others, were removed, and some of the front teeth that were not in so bad a condition were filled and rendered serviceable. The pains in the head, &c., have, since the operation, gradually diminished,

and in the May following she was quite free from any inconvenience. Her appetite is good, she sleeps well, and her food, which she enjoys, although, for want of grinders, it is not masticated as it ought to be, does not produce that irritation in the stomach which it formerly did.

Nearly all the stumps had a bony deposit upon them, and one or two presented that condition mentioned by the late Mr. Sheely, in a paper read before the Odontological Society\* in March 1857.

NEURALGIC AFFECTION OF THE FACE, CAUSED BY DECAYED WISDOM-TEETH — REMOVAL OF THE TEETH, AND CURE OF THE DISEASE.

CASE 10.—Harriet F——, aged twenty-six, applied to the Dental Dispensary in April 1860, for relief under the following circumstances:—She had suffered for a length of time from violent pains in the inferior maxilla, shooting through the ear, and up to the temples; had no sleep at night, nor rest by day; could take nothing but soft food, on account of the pain produced when eating anything hard. No pain could be detected in any one particular tooth;

\* Extract from Transactions of the Odontological Society, Vol. i. p. 37: —‘A very common appearance of exostosis, and one which is frequently ascribed to absorption is a nipple-like projection of the apex of the fang.’

the gums were slightly inflamed, and upon the lower front teeth a small quantity of tartar was deposited. I found that the stumps of several teeth remained in the jaws, and as both the wisdom-teeth in the lower jaw were decayed to the edge of the gum, the pains in the ear were easily accounted for.

I recommended the stumps to be removed, to which the patient consented, and on the 26th I extracted the second bicuspid stumps, right and left side, in the lower jaw.

April 28.—No improvement. Removed first superior molar, left side, decayed to the edge of the gum.

May 3.—Pain not quite so bad, but still sufficient to prevent the patient from following her daily occupation. Removed both the inferior wisdom stumps.

12.—Pain entirely ceased upon the removal of the wisdom stumps.

29.—Cured.

PAINFUL AFFECTION OF THE RIGHT MALAR BONE, PRODUCED BY A CARIOUS WISDOM-TOOTH—REMOVAL OF THE TOOTH, AND CURE OF THE DISEASE.

CASE 11.—On March 28, 1861, a young man, a patient at the Dental Dispensary, applied for relief for what he thought was a tumour in the mouth. For nearly twelve months he had suffered intense

pain in the right malar bone, the cheek swelling at times to a considerable size, and the eye becoming quite black. Inside the mouth, between the cheek and the gums, was a hard substance, which was situated close to the right superior\* wisdom-tooth. This tooth was decayed to the edge of the gum, and painful when touched. I removed the tooth, and had the satisfaction of finding all the painful symptoms subside in the course of a fortnight, and the swelling in the mouth entirely gone.

FISTULOUS OPENING IN THE LOWER JAW, ACCOMPANIED WITH TWELVE ABSCESSSES, CURED BY THE REMOVAL OF DISEASED STUMPS.

CASE 12.—Thomas —— aged 23, was sent to the Dental Dispensary respecting a fistulous opening in the lower part of the jaw, which had discharged for seven years. The history of the case was as follows:—

In the early part of November 1850, the crown of the first right lower molar was broken off in attempting to extract the tooth, and the fangs were allowed to remain in the sockets. Considerable pain was experienced for several days, which ultimately led to the formation of an abscess, which broke externally. Six months had scarcely elapsed when several other abscesses made their appearance in various parts of the neck, numbering in all thirteen. Several

attempts had been made to remove the fangs of the tooth broken, but without success: his health began to fail, and he became very weak from the continual discharge. The first time I saw him was on November 23, 1857, when with a pair of ordinary stump forceps I removed both the fangs, which were much necrosed.

December 6.—Has had no more discharge externally, but a little comes through the opening inside. 20 — Discharge entirely ceased, the original opening in the cheek gradually closing up, and the marks upon the neck from the other abscesses wearing away.

January 13, 1858.—By this time a perfect cure had been effected.

Remarks.—The case just quoted presents two very remarkable features, first the unusual number of thirteen abscesses, arising from a diseased condition of the molar stumps, and secondly, the great length of time the openings continued discharging.

Cases are on record in which similar diseases had existed for two or three years, but this is the only case I am acquainted with where it had extended over a period of seven years. The patient informed me that the opening in immediate connection with the diseased fangs had never ceased discharging, more or less, since the first day it broke out. The other abscesses had ceased to discharge about eighteen months previous to my seeing him. Various remedies

had been resorted to, which, so long as the stumps remained, failed to produce any beneficial results.

Several cases of fistulous openings in the cheek will be found recorded in this work, all of which have been permanently cured upon the removal of the exciting cause, viz., diseased teeth or stumps.

PAINFUL AFFECTION OF THE EYE, CURED BY THE REMOVAL OF A DISEASED TOOTH.

In the ‘Dublin Medical Free Press,’ Dr. Emmeuch relates the following case :—

CASE 13.—A man consulted him on account of a painful affection of one of his eyes, which had lasted fourteen years, and occasioned great suffering. There was considerable vascularity of the conjunctiva and sclerotica, especially round the cornea, which structure itself was somewhat opaque and spotted. There was a continual flow of tears, with pain, and intolerance of light.

All these symptoms were greatly aggravated by any indiscretion in diet, and the use of the slightest stimulus, such as a single glass of wine. All kinds of remedies had been tried in vain, at different times, and the affection seemed incurable. On examination of the upper jaw, Dr. Emmeuch found a carious tooth in the side corresponding to that of the affected eye. The portion of the jaw around the tooth was painful, and very sensitive to the touch. The patient thought that the affection of the tooth had begun

simultaneously with that of the eye. The tooth was drawn, and almost immediately afterwards the symptoms relating to the eye began to subside, and soon entirely disappeared. The affection of the eye was evidently the result of sympathy between the second and third branches of the fifth pair of nerves.

DYSPEPSIA, CAUSED BY DISEASED TEETH, AND CURED  
BY THEIR REMOVAL.

CASE 14.—Dr. Koecker relates the following case:—

Mrs. P—, a lady of great respectability, under the medical care of Dr. Jule Rucca, of Leicester Square, had some years since continually suffered from dyspepsia. This judicious physician had for a long time suspected the cause, and frequently proposed to consult me. By the wish of the lady, however, the dentist of the family was at last sent for, and three or four teeth and roots were extracted, which, according to the assertion of the dental attendant, were all that could be removed. The disease, however, was only aggravated by this interference, and the sufferings of the patient increased more and more.

About six months after the doctor again urged a meeting with me on the subject, and at last I was sent for. I found the lady labouring under a complete salivation from an extraordinary sympathy of all the glands in any way connected with the teeth.

On the previous night, and, indeed, for many nights preceding, she had been suffering such violent fits of convulsions as to alarm the whole family. The face was affected with acute erysipelatous inflammation, accompanied with headache, as also with considerable derangement of the digestive functions, such as sickness, vomiting, loss of appetite, &c. By examining the mouth, I found that the previous dental treatment had been but partial, and I proposed the removal of every tooth and root that produced irritation. The lady consented immediately to my proposal, and the necessary operations were performed, when nine decayed teeth, some of them mere roots, were removed. The patient was requested to rince her mouth frequently with a diluted astringent tonic. By this simple local treatment, and by further medical care, she was perfectly cured in about a week after the operation.

INDIGESTION, ACCCOMPANIED WITH SEVERE HEADACHE,  
VOMITING, ETC., CAUSED BY DECAYED TEETH AND  
STUMPS—REMOVAL OF THE TEETH, AND CURE OF  
THE DISEASE.—(*Dr. C. A. Harris.*)

CASE 15.—In September 1830, I was consulted by Mr. ——, at that time a resident in New York. Before I examined his teeth, he informed me that his general health had been very bad for four or five years past, and that he had applied to some of the most eminent

physicians in New York, Troy, and Albany, but had not obtained any permanent relief from his sufferings.

The character of the symptoms that prevailed at this time were very peculiar. His digestive powers were so much deranged, that he was obliged to observe the strictest regimen, and confine himself to the simplest kind of vegetable food. Besides the dyspeptic affection with which he was troubled, he had severe paroxysms of headache and vomiting, that recurred at regular intervals of from four to five weeks. These were always preceded by numbness, which commenced in his tongue, and extended thence throughout the whole system. This sensation continued usually for about two hours, when it was succeeded by a violent pain in the head and partial vertigo, from which, in about ten hours, he was relieved by vomiting. The effects of these paroxysms lasted about ten days, and the other symptoms had continued, without much mitigation, for three years. On examining his mouth, I gave it as my opinion that the diseased state of his teeth was the cause of his affliction.

This idea, though entirely novel to him, he was disposed to believe correct, and therefore readily consented to the treatment I prescribed. Many of his teeth were much decayed, and nearly all of them covered with tartar. The roots of some were denuded of the gums, the alveolar processes more or

less absorbed, the gums turgescent, fungoid, bleeding on the slightest touch, and of a dark red colour. The secretions of the mouth were viscid, and their exhalations exceedingly offensive. Such of his teeth as could not be perfectly restored were extracted, and as much tartar was taken away as could be conveniently removed at one time, and the rest at subsequent sittings. His gums were freely scarified, and a tonic astringent and detergent wash directed to be used three or four times every day. Under this treatment the local affection of the mouth rapidly disappeared, and in about four or five weeks his teeth and gums became perfectly healthy. His general health also began to improve, and in about two months it was perfectly restored, and has so continued.

SEVERE NEURALGIA CURED BY THE REMOVAL OF  
DISEASED TEETH. — (*Dr. C. A. Harris.*)

CASE 16.—The following (says Professor Harris) is one of the many cases of tic doloreux or neuralgia faciei, produced by disordered teeth, that have come under my own observation. The subject of it was a lady about forty years, of sedentary habits, and naturally of rather a nervous temperament. For several years she had been afflicted at times with a most distressing and painful affection of her face, which was pronounced by her physician to be tic

doloreux. The pain was sometimes so acute and lancinating that it almost deprived her of reason. It generally commenced near or a little anterior to the angle of the superior maxillary bone; thence it darted across the face to the alæ of the nose and thence to the temple, forehead, and angle of the eye, accompanied with frequent and sudden transitions from one side to the other, twitching and tremors of the muscles of the affected parts, and with a preternatural flow of saliva.

Her face, and sometimes the whole of her head, were rendered so sore by these paroxysms, that the slightest touch would produce pain. These paroxysms, although they were generally of short duration, frequently recurred as often as ten or fifteen times in twenty-four hours, and sometimes lasted ten, sixteen, and even twenty days, after which they would gradually subside, having subjected her during their continuance to the greatest misery, and leaving, after their subsidence, a dull heavy pain in one or both jaws. A sensation similar to this was always (especially in the right side of the upper) experienced several days before one of these attacks, which often enabled her physician to ward them off, and finally led to the detection of their cause. These spasms were more severe and occurred more frequently in cold, damp, and wet, than in warm and dry weather.

Bark, quinine, carb. ferri, stramonium, belladonna,

and various other tonics and antispasmodics were prescribed, but without any apparent beneficial effect. Leeching, sinapisms, and epispastics were also of no avail. As a last resort, it was determined to divide the affected nerve, but before the operation the physician was induced, by the pain in the jaws always preceding these paroxysms, to examine the condition of the patient's teeth. The examination proved the teeth to be in a very unhealthy condition. The molars, generally, and especially those on the right side, were involved in complicated caries. The gums were much tumefied, inflamed, and very sensitive.

Her teeth and gums, from the diseased condition in which they were found, were immediately supposed to have some agency in producing the affections of the face.

A consultation with me was therefore proposed, and I was requested to visit her.

On examining her teeth, I found that eleven were so much decayed as to render their restoration impracticable. It was therefore determined to remove these immediately, but it was not thought proper, owing to her extreme debility and the state of her nervous system, that more than two or three should be extracted at one time.

So great was her agitation at the mere thought of the operation, that, notwithstanding the agony she suffered, she could not, on my first visit, be

persuaded to have even a single tooth extracted, but requested me to call on the next day, when she promised she would submit to the removal of as many as she possibly could.

I accordingly called on the following day, and to the astonishment of her friends, she allowed all her teeth that were carious, eleven in number, to be at once extracted. The operation at once revealed the cause of her disease. The roots of three of these teeth were very much enlarged by bony depositions; one of the fangs was, at its extremity, about the size of a pea. Those of the other two were not quite so large, but a disposition to exostosis was manifested by all.

With the removal of these teeth, all symptoms of pain entirely vanished, nor have they, to my knowledge, returned.

EARACHE, CURED BY THE REMOVAL OF A DECAYED  
WISDOM-TOOTH.—(*Jourdain.*)

CASE 17.—A lady had long suffered with severe pains in the right ear. All the ordinary remedies were used without effect. At length she was asked if she had any carious teeth. She replied that she had not, that all her teeth were good, and never gave her any pain. Nevertheless, her mouth was carefully examined. At first sight all seemed right, but a close inspection showed external caries of the dens sapientiae. As the pain of the ear extended to

the angle of the jaw, and even a little along its base, I persuaded the lady to permit me to extract this tooth, which I suspected to be the real cause of the mischief. Three days afterwards the lady was perfectly and permanently relieved.

NEURALGIA CAUSED BY DECAYED TEETH, AND CURED  
BY THEIR REMOVAL.—(*Dr. Shepherd.*)

CASE 18.—Miss C—— W—— of delicate constitution, was attacked with severe pain in the right side of the head, neck, and shoulders, and from the severity of the pain, and other circumstances attending it, she came to the conclusion that it was neuralgia; and by concurrence with her medical adviser, her opinion was confirmed.

She used, therefore, all possible remedies for that disease, but without success. In the meantime her attacks were growing more frequent, and more severe; and for the latter period of the time she suffered, they occurred daily, at precisely five o'clock in the afternoon, and continued with the most intense severity until midnight, when the pain would begin gradually to subside, growing less and less until she was perfectly easy.

These daily attacks came on with such perfect regularity, that, to use her own words, five o'clock was a terror to her before it came. At this stage of the disease she was in Baltimore, whether in search of medical advice or not I do not know; but while

there, she consulted an eminent physician of that city; and he advised her to have her teeth examined, intimating that they might be involved; he gave her, at the same time, a prescription for neuralgia, to be used in case the teeth were not at fault. With this advice she returned home, and sent for me (Dr. Shepherd), and related substantially what I have stated above. I examined her teeth, and found the inferior wisdom-tooth of the right side decayed to the nerve, and I gave it as my opinion that all her ‘neuralgia’ originated there; I therefore advised its immediate extraction, to which she assented. The first day after the tooth was extracted she had very little pain, the next still less, and the third none at all. Thus a perfect cure was effected, of what perhaps nineteen out of twenty of our very best physicians would have pronounced neuralgia, without once thinking of the teeth, by the simple extraction of a bad tooth.

NEURALGIA CURED BY THE REMOVAL OF A DECAYED STUMP.—(*Prof. Bell, F.R.S.*)

CASE 19.—In May 1827, Mr. D——, a gentleman about fifty years of age, applied to me in consequence of severe pain occurring in irregular paroxysms, first attacking the ear, and from thence darting down the neck and shoulder, and through the whole length of the arm, so as considerably to diminish the power of the hand and fingers.

He had been for more than a year the subject of this affection ; and had, latterly, consulted a physician of the highest character, who, finding that the medical treatment which he recommended had failed to produce the slightest relief, requested me to see him.

I was informed that the second inferior molar tooth had been broken about two years before, in an attempt to extract it, and the roots were now remaining in the jaw ; the anterior one having been partially thrust out of the alveolus and lying obliquely upon the gum, the posterior still remaining firmly fixed, but evidently producing considerable irritation in the surrounding parts, with increased pain on pressure, which in some degree assumed the character of those paroxysms which he had so long been suffering. I therefore removed both the roots, and had the satisfaction of hearing some time afterwards that the complaint had entirely ceased.

PAINFUL AFFECTION OF THE JAWS CAUSED BY TEETH,  
SOUND TO ALL APPEARANCE EXTERNALLY, BUT HAVING  
A BONY DEPOSIT UPON THE FANGS — REMOVAL OF  
THE TEETH, AND SUBSEQUENT CURE OF THE DISEASE.  
—(*Joseph Fox, M.R.C.S.*)

CASE 20.—Mr. Fox relates a case in which he extracted the first molars of each side of the lower jaw from a lady, who had suffered for a considerable length of time from pain on both sides of her face, arising

from each of these teeth. She described her symptoms to be, a constant uneasiness like the gnawing sensation of rheumatism, which, continuing almost without intermission, exhausted her health and spirits. The teeth and gums were quite free from any diseased appearance; the pain, therefore, was considered as rheumatic. She had taken much medicine, and continued under the care of an eminent practitioner for a considerable length of time, without receiving any benefit. The gums were lanced, blisters were applied behind the ears, but all means were ineffectual; she at length determined to have both of the teeth extracted. This was reluctantly performed, because they appeared to be perfectly free from disease. When one tooth was removed, the cause of her complaint became evident, for the whole surface of the fangs was increased in size by the irregular addition of a quantity of bony matter. This induced me to comply with her wish of removing the other, which had precisely the same appearance. The cause of her pain now became certain; the increase in the size of the fangs necessarily occasioned a distension of the alveolar cavity, and kept up a constant uneasiness. The lady was immediately relieved, and recovered her health and spirits, to the great joy of the family, who were nearly deprived of her society by reason of her excessive nervous irritability.

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